

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently amended): A color filter on array substrate, comprising:

a substrate;
an insulating layer formed on selected regions on the substrate, the insulating layer having a reflective top surface; and
a color filter over the substrate, including at least one a first color pigment and a second color pigment, the first color pigment having a first portion of the color pigment covering a first area of the insulating layer at the selected regions and a second portion of the color pigment on the substrate, the second color pigment covering at least a second area of the insulating layer, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment and the first color pigment contacts the second color pigment on the reflective top surface.

Claim 2 (Original): The color filter on array substrate according to claim 1, wherein the insulating layer includes a reflective layer having a reflective top surface.

Claim 3 (Original): The color filter on array substrate according to claim 1, wherein the insulating layer does not extend beyond the selected regions on the substrate, and the selected regions generally define reflective regions on the substrate and the regions outside the selected regions generally define transmissive regions on the substrate.

Claim 4 (Original): The color filter on array substrate according to claim 1, wherein the insulating layer extends beyond the selected regions on the substrate, and the selected regions generally define reflective regions on the substrate and the regions outside the selected regions generally define transmissive regions on the substrate

Claim 5 (Original): The color filter on array substrate according to claim 1, further comprising:

a pixel electrode formed on the color filter.

Claim 6 (Currently amended): A transfective liquid crystal display device, comprising:

a color filter on an array substrate, comprising:

a first substrate;

an insulating layer formed on selected regions on the first substrate, the insulating layer having a reflective top surface; and

the color filter over the first substrate, including at least one a first color figment and a second color pigment, the first color pigment having a first portion ~~of the color pigment~~ covering a first area of the insulating layer at the selected regions and a second portion ~~of the color pigment~~ on the first substrate, the second color pigment covering at least a second area of the insulating layer, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment and the first color pigment contacts the second color pigment on the reflective top surface;

a liquid crystal element supported on the color filter on the array substrate; and
electrodes operatively coupled to the liquid crystal element.

Claim 7 (Original): The transfective liquid crystal display device according to claim 6, wherein the electrodes comprise a pixel electrode and a common electrode.

Claim 8 (Original): The transfective liquid crystal display device according to claim 6, further comprising:

a second substrate opposite the first substrate, wherein the first and second substrates sandwich therebetween the liquid crystal element, electrodes, the insulating layer and the color filter.

Claim 9 (Original): The transfective liquid crystal display device according to claim 6, wherein the insulating layer includes a reflective layer having a reflective top surface.

Claim 10 (Original): The transfective liquid crystal display device according to claim 6, wherein the insulating layer does not extend beyond the selected regions on the first substrate, and the

selected regions generally define reflective regions on the first substrate and the regions outside the selected regions generally define transmissive regions on the first substrate.

Claim 11 (Original): The transfective liquid crystal display device according to claim 6, wherein the insulating layer extends beyond the selected regions on the first substrate, and the selected regions generally define reflective regions on the first substrate and the regions outside the selected regions generally define transmissive regions on the first substrate.

Claim 12 (Currently amended): An electronic device, comprising:

- a liquid crystal display device comprising a color filter on an array substrate, wherein the array substrate comprises:

- a first substrate;

- an insulating layer formed on selected regions on the first substrate, the insulating layer having a reflective top surface;

- a color filter over the first substrate, including at least one a first color pigment and a second color pigment, the first color pigment having a first portion of the color pigment covering a first area of the insulating layer at the selected regions and a second portion of the color pigment on the first substrate, the second color pigment covering at least a second area of the insulating layer, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment and the first color pigment contacts the second color pigment on the reflective top surface;

- a liquid crystal element supported on the color filter on the array substrate; and

- electrodes operatively coupled to the liquid crystal element; and

- control electronics operatively coupled to the liquid crystal display device, controlling the liquid crystal display device to display an image in accordance with display data.

Claim 13 (Currently amended): A process of fabricating a color filter on array substrate, comprising the steps of:

- providing a first substrate;

- forming an insulating layer on selected regions on the first substrate, the insulating layer having a reflective top surface; and

forming a color filter over the first substrate, including at least one a first color pigment and a second color pigment, the first color pigment having a first portion of the color pigment covering a first area of the insulating layer at the selected regions and a second portion of the color pigment on the first substrate, the second color pigment covering at least a second area of the insulating layer, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment and the first color pigment contacts the second color pigment on the reflective top surface.

Claim 14 (Original): The process according to claim 13, wherein the insulating layer includes a reflective layer having a reflective top surface.

Claim 15 (Original): The process according to claim 13, wherein the insulating layer does not extend beyond the selected regions on the substrate, and the selected regions generally define reflective regions on the substrate and the regions outside the selected regions generally define transmissive regions on the substrate.

Claim 16 (Original): The process according to claim 13, wherein the insulating layer extends beyond the selected regions on the substrate, and the selected regions generally define reflective regions on the substrate and the regions outside the selected regions generally define transmissive regions on the substrate.

Claim 17 (Original): The process according to claim 13, further comprising the step of:
forming a pixel electrode on the color filter.

Claim 18 (Currently amended): A process of fabricating a transfective liquid crystal display device, comprising the steps of:

forming a color filter on an array substrate, comprising the steps of:

providing a first substrate;

forming an insulating layer on selected regions on the first substrate, the insulating layer having a reflective top surface; and

forming a color filter over the first substrate, including at least one a first color pigment and a second color pigment, the first color pigment having a first portion of the color pigment covering a first area of the insulating layer at the selected regions and a second portion of the color pigment on the first substrate, the second color pigment covering at least a second area of the insulating layer, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment and the first color pigment contacts the second color pigment on the reflective top surface;

providing a liquid crystal element on the color filter on the array substrate; and
providing electrodes operatively coupled to the liquid crystal element.

Claim 19 (Original): The process according to claim 18, wherein the insulating layer includes a reflective layer having a reflective top surface.

Claim 20 (Original): The process according to claim 18, wherein the insulating layer does not extend beyond the selected regions on the first substrate, and the selected regions generally define reflective regions on the first substrate and the regions outside the selected regions generally define transmissive regions on the first substrate.

Claim 21 (Original): The process according to claim 18, wherein the insulating layer extends beyond the selected regions on the first substrate, and the selected regions generally define reflective regions on the first substrate and the regions outside the selected regions generally define transmissive regions on the first substrate.

Claims 22-29 (Canceled)

Claim 30 (Currently amended): The transfective liquid crystal display device according to claim 11, further comprising:

a reflective layer formed on the insulating layer in the reflective regions, wherein the color filter formed on the insulating layer and the reflective layer;
a pixel electrode formed on the color filter;
a second substrate opposite the first substrate;

a transparent electrode formed on an inner side of the second substrate; and
the liquid crystal interposed between the first substrate and the second substrate.

Claim 31 (Previously presented): The transflective liquid crystal device according to claim 30, wherein the ratio of the color filter thickness in the reflective region to that in the transmissive region is $1/1.2$ to $1/2$.

Claim 32 (Previously presented): The transflective liquid crystal device according to claim 30, wherein a surface of the color filter is higher in the reflective region than in the transmissive region.

Claim 33 (Previously presented): The transflective liquid crystal device according to claim 30, wherein a surface of the color filter is substantially the same height in the reflective region and in the transmissive region.

Claim 34 (Previously presented): The transflective liquid crystal device according to claim 30, wherein the insulating layer is thinner in transmissive region than in the reflective region.

Claim 35 (Previously presented): The transflective liquid crystal device according to claim 30, wherein the ratio of the insulating layer thickness in the reflective region to that in the transmissive region is $2/1$ to $10/1$.

Claim 36 (Previously presented): The transflective liquid crystal device according to claim 10, wherein the ratio of the color filter thickness in the reflective region to that in the transmissive region is $1/1.2$ to $1/2$.

Claim 37 (Previously presented): The transflective liquid crystal device according to claim 11, wherein the ratio of the insulating layer thickness in the reflective region to that in the transmissive region is $2/1$ to $10/1$.